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INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7 : H04H 1/02

A1

(11) International Publication Number: **WO 00/25460**

(43) International Publication Date: 4 May 2000 (04.05.00)

(21) International Application Number: PCT/EP99/07772

(22) International Filing Date: 7 October 1999 (07.10.99)

(30) Priority Data:
1010389 23 October 1998 (23.10.98) NL

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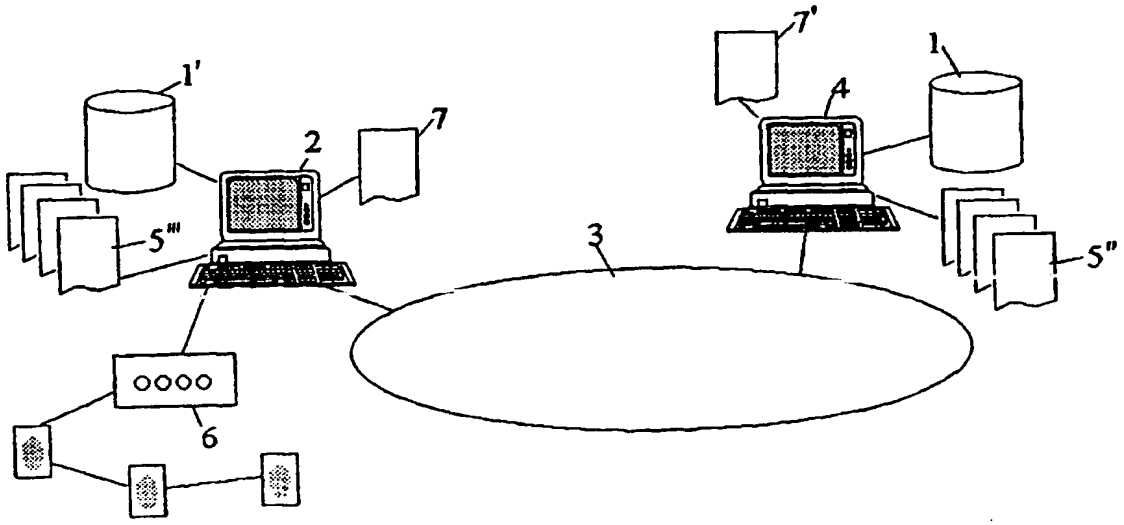
(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published
With international search report.

(54) Title: SYSTEM FOR THE DISTRIBUTION OF AUDIO AND VIDEO FILES



(57) Abstract

From a central database (1) audio/video files are transferred to local processing means (2). A processor (4) selects a collection of files (1') and stores these in a selection file (5'). The selection file and the selected files are transferred to the local processing means, which play the selected files. The processor periodically replaces part of the collection of local files by new files selected from the database. The processor can also select different collections of files and transfer these to the local processing means. The local processing means then comprise a local selection device for selecting selection files according to the desire of the subscriber, by means of which the files are "played" locally. For refreshing of the local files the local selection device stores the local selections and the central processor reads out those selections and replaces a part of the local collection.

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System for the distribution of audio and video files

BACKGROUND OF THE INVENTION

The invention relates to a system for the distribution of audio and video files, comprising a central database with audio or video files, local processing means for processing and reproducing such files and a transmission network for the transmission of such files from the central database to the local processing means.

A comparable system is widely known, particularly in the domain of the "Internet", among others from WO9617451, in which a system is described for distributing audio "clips" via a multimedia network. The local processing means are formed by a PC, which is controlled by processing and reproducing software for audio.

SUMMARY OF THE INVENTION

The present invention proposes a number of measures for adapting a system for distributing audio (or video) via a transmission network for application as a means of distribution for e.g. varied background music in shops, restaurants, waiting lounges etc. So far for this purpose a service is used in which, when one has a subscription to that service, cassette tapes or compact discs (CDs) are distributed from a central point via physical mail and the like to subscribing shops etc. An important point is that the music that is played in the shops etc. must be regularly changed and "refreshed". In some cases a fairly balanced collection of music is desired adapted to the time of the day, time of the year, etc. Retail chains usually also want that the music played is the same in all the various locations or branches. "Free" shops like to be free in their choice of background music.

The invention thus comprises a system for the distribution of audio and video files, in particular - but not exclusively - for supplying music (or audio) in shops etc.,

comprising, in a central server with a central database with audio and video files, and with local clients of the service, viz. the shops etc., local processing means for processing and playing of the files and a transmission network for the transmission of the files from the central database to the local processing means. The system according to the invention comprises a processor for selecting a collection of files from the database by means of a selection algorithm and storing that selection in a selection file, as well as for transferring via the transmission network to the local processing means of a subscriber of both the selection file and the selected files themselves, in which the local selection means can play the selected files under control of the selection file.

If the system according to the invention is applied for e.g. retail chains in which at every moment of the day the same music should be played, it is sufficient that the subscriber - the branch manager - can switch on or off the local processing system without further influence of the repertoire played by the processing system.

The repertoire is preferably refreshed periodically. Files from the local downloaded collection are then replaced by other files from a central database. Using current transmission means downloading of 1 hour of music takes around half an hour. By refreshing the local files regularly, the reproduced music keeps its attraction for visitors (for whom it is meant of course). In such a periodical refreshing mechanism the processor replaces under control of the refreshing algorithm periodically a part of the collection of local files by new files, which have to be selected again (under control of the selection algorithm) from the database and have to be transferred via the transmission means.

The system according to the invention can be used for the

distribution of audio or video to shops etc. where - as in the preceding concept - they are locally not free in the choice of the played music or where they - contrary to the preceding - are locally free to make a choice from various downloaded collections. In this last option, the processor selects on the basis of one or more selection algorithms, different collections of files and stores these selections in different selection files, which are transferred to the local processing means via the transmission network. The local processing means comprise in this preferred embodiment of the invention a local selection device for selecting according to the desire of the subscriber of one of those different selection files. In this case the shop owner etc. has various collections of music available from which can be chosen.

In the last option there are locally different collections of files with in total (many) more files than in the option in which locally no choice of collections could be made. The "refreshing" of the collections is here a larger problem, because the time and resources required for this are limited. A considerable gain of time and resources can be obtained by having the local selection device store the selections made by the subscriber in a log file and have the central processor read out that log file via the transmission network and have under its control a part of the actually used collections or individual files replaced by new, again from the database selected files.

The invention will below be illustrated by means of some figures.

DESCRIPTION OF FIGURES

Figure 1 shows a first embodiment of the invention. A central database 1 works together or is incorporated in a computer 4. In the database 1, a large collection of (e.g. MPEG or JPEG coded) audio (or video) files is stored. There

are (sub)collections of different music styles, from medieval chamber music to contemporary pop music and besides music from different parts of the world. The service which is offered by means of the system described here exists in that subscribers can make a selection from the whole range of music (the same applies of course to video) by means of a central selection algorithm, which selection, after being downloaded via the transmission network 3, can be played locally on the subscriber location. Furthermore, the invention comprises that the selected files (music pieces) are regularly replaced by other pieces, while taking into account the selection rules given by the selection algorithm. By the latter the selected musical genres remain the same, but the music pieces are replaced within these genres. On refreshing of music pieces it is made sure - by a refreshing algorithm - that there is enough coherence (genre) and variation between a replacing music piece and the musical context in which it is placed. This applies also to the selection algorithm; selection algorithm and refreshing algorithm are thus largely congruent.

The software loaded in the central computer 4 comprises a selection algorithm with which, using selection data as genre, composer, instrumentation etc, a collection of files (music files) is selected from the database. The file data (such as record numbers) of those selected files are stored in a selection file ("play list") 5. Next, the selected files and a replica of the selection file 5' are transferred via the transmission network 3 to the local computer 2 of the subscriber and stored (1', 5'). Under control of the selection file 5', the selected files 1' can then be played via an audio installation 6. In this concept the local user can only choose between playing and non-playing of the transferred music files 1', under control of file 5'. This concept is especially useful for retail

chains etc. with a uniform corporate identity, inclusive the (background) music.

The processor, that is the computer 4 with the loaded software, replaces under control of a refreshing algorithm periodically a part of the collection of selected files and that have been transferred to the local processing means by files that are again selected from the database. As said, the correct genre is taken into account (the new files must originate from the same genre subset as the old file) as well as the variation in among others composers and performing musicians.

If it is desired - contrary to the retail chains with completely uniform presentation - that the local subscribers make a choice themselves from a series of music collections (5'), which are all compiled according to a certain logic (by means of a selection algorithm), the architecture of figure 1 is replaced by that of figure 2. In the architecture of figure 2, the processor 4 selects by means of one or more different selection algorithms different collections of files and stores these selections in various selection files ("play lists"), collectively referred to with 5". Those selection files 5" are transferred via the transmission network 3 to the local processor 2, together with the selected files. In this architecture there are consequently usually more than in the preceding embodiment. The local processing means 2 comprise a local selection device for selecting a selection file according to the desire of the subscriber from the different downloaded selection files (here refereed to with 5'''). The said local selection device preferably belongs to the software which is loaded on the local computer 2. By means of screen and mouse/keyboard a choice can be made ad libitum from one of the downloaded "play lists" 5. Because in this option there are many more files downloaded, refreshing of it requires more capacity.

Especially when the number of files is substantial, regularly refreshing can be a problem. However, the following measure has been taken.

The local selection device, incorporated in computer 2, stores the consecutive choices made by the subscriber in a "log file" 7. The central processor 4 reads periodically those selections stored in the log file via the transmission network. Under control of the uploaded log file 7' and a refreshing algorithm, the central processor periodically replaces a part, some files, of the collection files in the local processing means 2 by selecting files again from the central database 1. Also the selection file concerned from the set 5" is edited. The new files and the edited selection file are sent to the local computer 2. The computer 2 replaces the old files in 1' and the old "play list" in 5''' by new ones. By using a log file per subscriber the number of files to be refreshed is reduced considerably, namely to the local files which have been actually selected by the subscriber.

CLAIMS

1. System for the distribution of audio and video files, comprising a central database (1) with audio or video files, local processing means for processing and playing of such files and a transmission network for the transmission of such files from the central database to the local processing means, **characterised by** a processor (4) for selecting a collection of files from the database by means of a selection algorithm and storing that selection in a selection file (5), as well as for transferring, via the transmission network to the local processing means of a subscriber, replica's of both the selection file (5') and the selected files (1') themselves, the local selection means being able to play the selected files via playing means (6), under control of the selection file.

2. System according to claim 1, **characterised in that** the processor periodically replaces, under control of a refreshing algorithm, part of the collection of selected files by files which are selected once again from the database.

3. System according to claim 1, **characterised in that** the processor selects, on the basis of one or more selection algorithms, different collections of files and stores these selections in different selection files, which are transferred to the local processing means via the transmission network, the local processing means comprising a local selection device for selecting, according to the desire of the subscriber, one of those different selection files.

4. System according to claim 3, **characterised in that** the local selection device stores consecutive choices made by the subscriber, in a log file, the processor reading out the selections stored in the local selection device and periodically replacing part of the collection of selected files by files selected once again from the database.

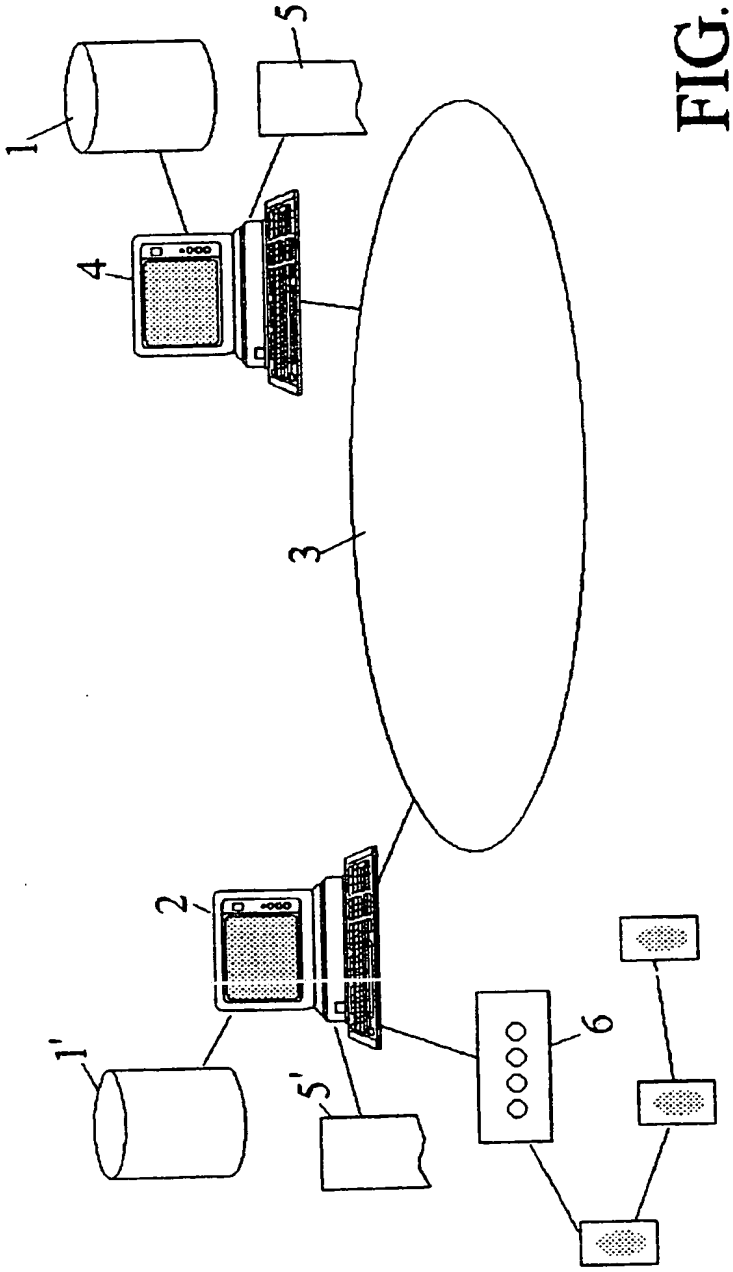
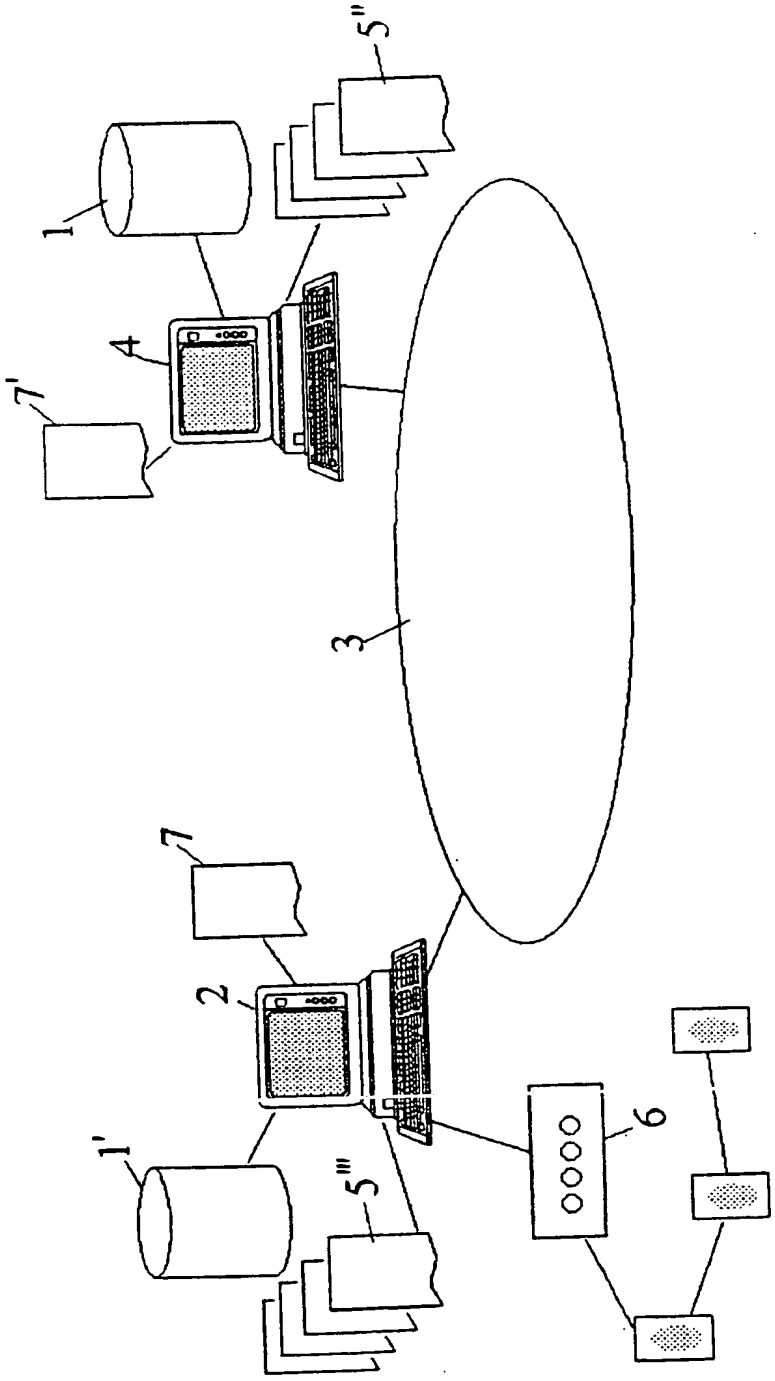


FIG. 1

FIG. 2



INTERNATIONAL SEARCH REPORT

Inte onal Application No
PCT/EP 99/07772

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H04H1/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 H04H

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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A	DE 42 44 198 A (NSM AG) 30 June 1994 (1994-06-30) column 1, line 1 -column 3, line 47; claim 1; figure 1	1
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[V^] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

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A	GB 2 193 420 A (PETYARD LIMITED) 3 February 1988 (1988-02-03) the whole document ---	1
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Information on patent family members

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